Annex V South Placer Fire Protection District

V.1 Introduction

This Annex details the hazard mitigation planning elements specific to South Placer Fire Protection District (South Placer FPD), a previously participating jurisdiction to the 2016 Placer County Local Hazard Mitigation Plan (LHMP) Update. Note, this South Placer FPD absorbed the Loomis Fire Protection District also a participating jurisdiction to the 2016 LHMP Update. This Annex is not intended to be a standalone document, but appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the District. This Annex provides additional information specific to South Placer FPD, with a focus on providing additional details on the risk assessment and mitigation strategy for this District.

V.2 Planning Process

As described above, the District followed the planning process detailed in Chapter 3 of the Base Plan. In addition to providing representation on the Placer County Hazard Mitigation Planning Committee (HMPC), the District formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table V-1. Additional details on plan participation and District representatives are included in Appendix A.

Table V-1 South Placer FPD – Planning Team

Name	Position/Title	How Participated
Jeff Ingolia	Division Chief	Attended meetings. Provided input on hazard identification and hazards affecting the District. Provided capability tables and mitigation actions. Provided maps and logos.
Karl Fowler	Chief	Provided input on hazard identification and hazards affecting the District.
Matt Feeley	Deputy Chief	Provided input on hazard identification and hazards affecting the District.

Coordination with other community planning efforts is paramount to the successful implementation of this LHMP Update. This section provides information on how the District integrated the previously approved 2016 Plan into existing planning mechanisms and programs. Specifically, the District incorporated into or implemented the 2016 LHMP through other plans and programs shown in Table V-2.

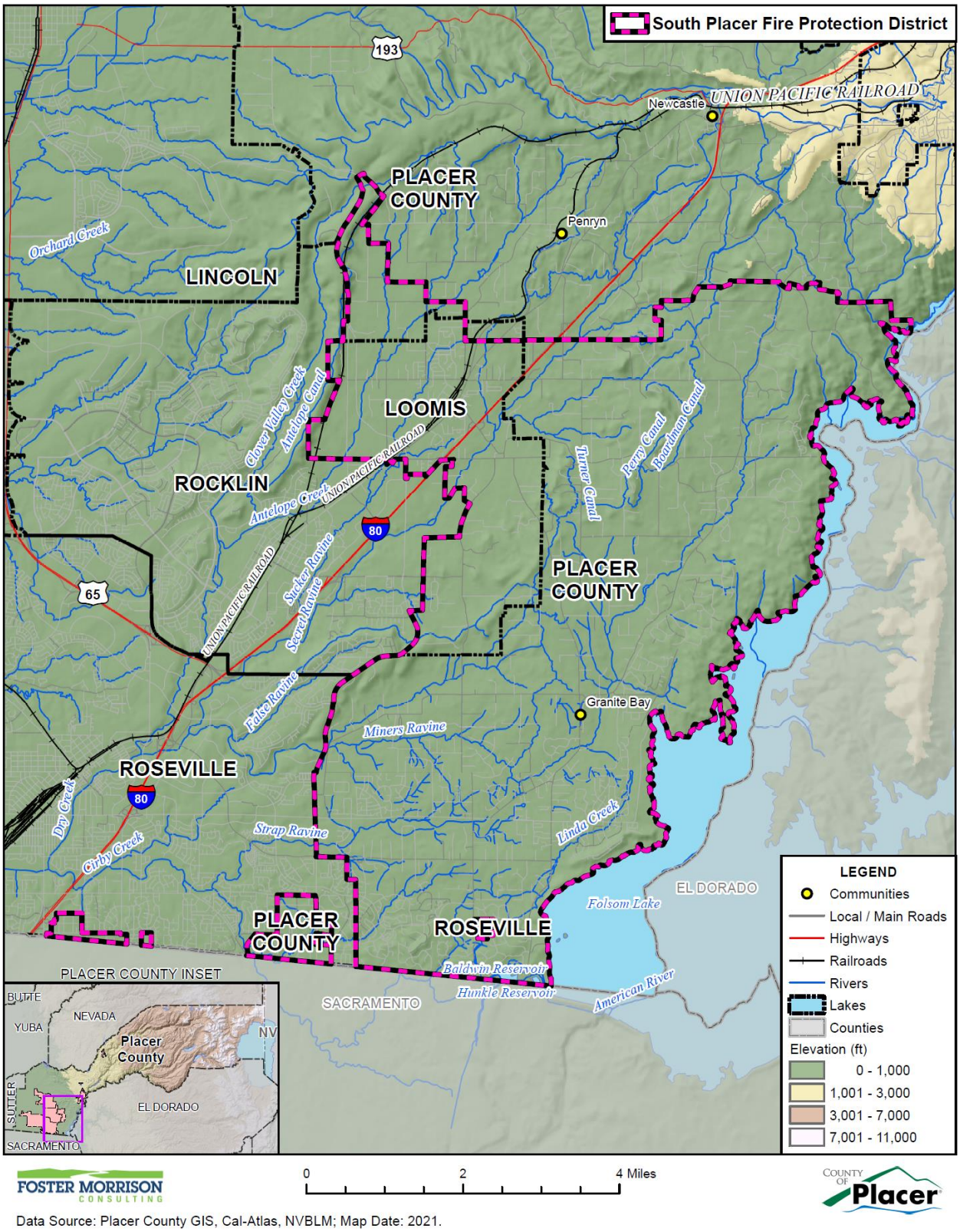
Table V-2 2016 LHMP Incorporation

Planning Mechanism 2016 LHMP Was Incorporated/Implemented In.	Details: How was it incorporated?
N/A	No planning mechanisms related to the LHMP occurred since 2016.

V.3 District Profile

The District profile for the South Placer FPD is detailed in the following sections. Figure V-1 displays a map and the location of the District within Placer County.

Figure V-1 South Placer FPD



FOSTER MORRISON CONSULTING

COUNTY OF Placer

Data Source: Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

V.3.1. Overview and Background

South Placer FPD was formed on January 10, 1952. The principal act that governs the District is the Fire Protection District Law of 1987. This Act empowers fire districts to provide fire protection, rescue, emergency medical, hazardous material response, ambulance, and any other services relating to the protection of lives and property.

South Placer FPD is located entirely within Placer County and encompasses about 55 square miles. The District serves approximately 36 square miles of unincorporated Placer County (including the communities of Granite Bay and portions of Loomis, Penryn and Newcastle), and the Town of Loomis.

The District's boundary area consists of four non-contiguous parts. Three smaller areas are surrounded by the City of Roseville from three sides; in the south they are bordered by Sacramento County. The largest non-contiguous South Placer FPD portion to the east completely surrounds a small island of the City of Roseville and is bordered by the cities of Roseville and Rocklin in the west, Loomis, Penryn and Newcastle FPDs in the north, and Folsom Lake in the east.

V.4 Hazard Identification

South Placer FPD identified the hazards that affect the District and summarized their location, extent, frequency of occurrence, potential magnitude, and significance specific to District (see Table V-3).

Table V-3 South Placer FPD—Hazard Identification Assessment

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/ Severity	Significance	Climate Change Influence
Agriculture Pests and Diseases	Limited	Unlikely	Negligible	Low	Medium
Avalanche	Limited	Unlikely	Negligible	Low	Medium
Climate Change	Extensive	Likely	Limited	Medium	–
Dam Failure	Limited	Unlikely	Negligible	Low	Medium
Drought & Water Shortage	Significant	Likely	Limited	Medium	High
Earthquake	Extensive	Unlikely	Critical	Medium	Low
Floods: 1%/0.2% annual chance	Limited	Occasional	Limited	Medium	Medium
Floods: Localized Stormwater	Significant	Likely	Limited	Medium	Medium
Landslides, Mudslides, and Debris Flows	Limited	Unlikely	Negligible	Low	Medium
Levee Failure	Significant	Unlikely	Limited	Medium	Medium
Pandemic	Limited	Occasional	Critical	Low	Medium
Seiche	Limited	Unlikely	Negligible	Low	Medium
Severe Weather: Extreme Heat	Extensive	Highly Likely	Limited	Medium	High
Severe Weather: Freeze and Snow	Extensive	Likely	Limited	Medium	Medium
Severe Weather: Heavy Rains and Storms	Extensive	Likely	Limited	Medium	Medium
Severe Weather: High Winds and Tornadoes	Extensive	Likely	Limited	Medium	Low
Tree Mortality	Significant	Likely	Limited	Low	High
Wildfire	Extensive	Highly Likely	Critical	High	High

Geographic Extent
Limited: Less than 10% of planning area
Significant: 10-50% of planning area
Extensive: 50-100% of planning area

Likelihood of Future Occurrences
Highly Likely: Near 100% chance of occurrence in next year, or happens every year.
Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less.
Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.
Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.

Magnitude/Severity
Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths
Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability
Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability
Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

Significance
Low: minimal potential impact
Medium: moderate potential impact
High: widespread potential impact

Climate Change Influence
Low: minimal potential impact
Medium: moderate potential impact
High: widespread potential impact

V.5 Hazard Profile and Vulnerability Assessment

The intent of this section is to profile the District's hazards and assess the District's vulnerability separate from that of the Placer County Planning Area as a whole, which has already been assessed in Section 4.3 Hazard Profiles and Vulnerability Assessment in the Base Plan. The hazard profiles in the Base Plan discuss overall impacts to the Placer County Planning Area and describes the hazard problem description, hazard location and extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard profile information specific to the District is included in this Annex. This vulnerability assessment analyzes the property and other assets at risk to hazards ranked of medium or high significance specific to the District. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the Base Plan.

V.5.1. Hazard Profiles

Each hazard vulnerability assessment in Section V.5.3, includes a hazard profile/problem description as to how each medium or high significant hazard (as shown in Table V-3) affects the District and includes information on past hazard occurrences and the likelihood of future hazard occurrence. The intent of this section is to provide jurisdictional specific information on hazards and further describes how the hazards and risks differ across the Placer County Planning Area.

V.5.2. Vulnerability Assessment and Assets at Risk

This section identifies the District's total assets at risk, including values at risk, populations at risk, critical facilities and infrastructure, natural resources, and historic and cultural resources. Growth and development trends are also presented for the District. This data is not hazard specific, but is representative of total assets at risk within the District.

Assets at Risk and Critical Facilities

This section considers the South Placer FPD's assets at risk, with a focus on key District assets such as critical facilities, infrastructure, and other District assets and their values. With respect to District assets, the majority of these assets are considered critical facilities as defined for this Plan. Critical facilities are defined for this Plan as:

> ***Any facility, including without limitation, a structure, infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time before, during and after the hazard event.***

This definition is further refined by separating out three classes of critical facilities:

> ***Class 1 facilities include those facilities that contribute to command, control, communications and computer capabilities associated with managing an incident from initial response through recovery.***

Class 2 facilities include those facilities that house Emergency Services capabilities.

Class 3 facilities are those facilities that enable key utilities and can be used as evacuation centers/shelters/mass prophylaxis sites, etc.

Additional information on the three classes of critical facilities is described further in Section 4.3.1 of the Base Plan.

Table V-4 lists critical facilities and other District assets identified by the District Planning Team as important to protect in the event of a disaster. South Placer FPD's physical assets, valued at over $9.5 million, consist of the buildings and infrastructure to support the District's operations.

Table V-4 South Placer FPD Critical Facilities, Infrastructure, and Other District Assets

Name of Asset	Facility Type	Replacement Value	Which Hazards Pose Risk
Station #15	Fire Facility	$819,967.00	None
Station #16	Fire Facility	$2,828,000.00	None
Administration (Portables)	Fire Facility	$89,305.00	Levee Failure
Station #17	Fire Facility	$2,361,700.00	Levee Failure
Station #17 Training Cargo Container	Fire Facility	$2,862.00	Levee Failure
Shop	Fire Facility	$305,259.00	Levee Failure
Station #19	Fire Facility	$2,513,462.00	None
Station #20	Fire Facility	$650,319.00	Wildfire
Total		**$9,570,874.00**	

Source: South Placer FPD

Populations Served

Also potentially at risk should the District be affected by natural hazard events are the populations served by the District. SPFPD provides services to home and property owners, the elderly housed in commercial and residentially based care facilities, students, livestock owners, travelers, commercial business owners including offices, restaurants, bars, assembly, and mercantile occupancies.

Natural Resources

South Placer FPD has a variety of natural resources of value to the District. These natural resources parallel that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Historic and Cultural Resources

South Placer FPD has a variety of historic and cultural resources of value to the District. These historic and cultural resources parallel that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Growth and Development Trends

General growth in the District parallels that of the Placer County Planning Area as a whole. Information can be found in Section 4.3.1 of the Base Plan.

There are approximately 29,973 residents within the District. The population density is 545 people per square mile. The District reported that it generally experienced moderate population growth over the last five years although in the last year South Placer FPD observed an increase in building starts and plan submittals. Population growth thus is trending toward significant. No formal population projections, however, have been done by the District. South Placer FPD estimates its future service needs through Placer County General Plan, Granite Bay Community Plan and Placer County Municipal Advisory Councils (MACs) planning meetings. The District also looks at the available lots for residential and commercial construction and plans for future construction.

The population of the District is anticipated to be 34,330 at full build-out of this rapidly developing area. The area is evenly divided between suburban and wildland areas, and mostly comprised of large-scale estates and ranch properties with many subdivisions, including wildland interface subdivisions and medium-scale retail shopping areas. The current average home is 6,710 square feet, with several homes over 18,000 square feet. Commercial building growth has been slower than residential growth.

South Placer FPD reports that growth has been concentrating in the southern area of the District. There are large parcels of land located near Station 16 (which is currently closed) that will be developed in the very near future. Approximately seven new subdivisions near Fire Stations 15,16 and 17, consisting of approximately 600 new homes will be developed and built within the next two to three years. Apart from the southern part of South Placer FPD, there are mainly lot splits and small parcels of land that will be developed on a regular basis until build out.

The Fire District anticipates accelerated population growth over the next 10 years. Service demand is expected to increase especially in the area of medical aids, with unknowns of weather conditions (drought, etc.) affecting the service demand. The continued use of the closest resource agreement and understaffing of local agencies may also impact the District's service demand.

Based on a review of the Granite Bay Community Plan and the Horseshoe Bar Community Plan, as well as through site survey of the properties in the District, District staff estimate that an additional 1800 residential units will be constructed in the District over the next 10 to 15 years. South Placer FPD also anticipates construction of an additional 980,000 square feet of commercial, office, and industrial building space during this time. In total, the District estimates that approximately 8.5 million square feet of building construction will occur in the District over the next 10 to 15 years. Fire Station 16 is currently unstaffed but is expected to house a full time Paramedic Unit this year (currently this resource resides at Station 17) and Engine Company in the next 2 years. Fire Station 18 is currently in the plan review stage for the construction of a new apparatus bay and station expansion and modernization which is anticipated to begin construction this year and be completed in 2022. There are currently no plans or proposals to increase the size of the Fire District.

Development since 2016

No District facilities have been constructed since 2016. Several Fire Stations within the District have been remodeled and updated within that time frame but there has been no new construction. As such, a change in vulnerability is unlikely.

Future Development

The District has no direct control over future development in areas the District services. Future development in these areas parallels that of the Placer County Planning Area. As mentioned previously Fire Station 18 is currently in the plan review stage for a new apparatus bay and station expansion and modernization. Aside from this project there are no other construction activities planned for District facilities. More general information on growth and development in Placer County as a whole can be found in "Growth and Development Trends" in Section 4.3.1 Placer County Vulnerability and Assets at Risk of the Base Plan.

V.5.3. Vulnerability to Specific Hazards

This section provides the vulnerability assessment, including any quantifiable loss estimates, for those hazards identified above in Table V-3 as high or medium significance hazards. Impacts of past events and vulnerability of the District to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the Base Plan for more detailed information about these hazards and their impacts on the Placer County Planning Area). Methodologies for evaluating vulnerabilities and calculating loss estimates are the same as those described in Section 4.3 of the Base Plan.

An estimate of the vulnerability of the District to each identified priority hazard, in addition to the estimate of likelihood of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low**—The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low**—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium**—Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High**—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High**—Very widespread with catastrophic impact.

Depending on the hazard and availability of data for analysis, this hazard specific vulnerability assessment also includes information on values at risk, critical facilities and infrastructure, populations at risk, and future development.

Climate Change

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

Climate change adaptation is a key priority of the State of California. The 2018 State of California Multi-Hazard Mitigation Plan stated that climate change is already affecting California. Sea levels have risen by as much as seven inches along the California coast over the last century, increasing erosion and pressure on the state's infrastructure, water supplies, and natural resources. The State has also seen increased average temperatures, more extreme hot days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow, and earlier runoff of both snowmelt and rainwater in the year. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing. Dry conditions continue to increase the risk of a sever wildfire event within the District as vegetation dries out sooner, catches fire more easily and spreads more rapidly. Heat related injuries have also been on the rise as both residents and visitors to our community experience more heat related health issues in both residential and recreational areas within the District.

Location and Extent

Climate change is a global phenomenon. It is expected to affect the whole of the District, Placer County, and State of California. There is no scale to measure the extent of climate change. Climate change exacerbates other hazards, such as drought, extreme heat, flooding, wildfire, and others. The speed of onset of climate change is very slow. The duration of climate change is not yet known, but is feared to be tens to hundreds of years.

Past Occurrences

Climate change has never been directly linked to any declared disasters. While the District noted that climate change is of concern, no specific impacts of climate change could be recalled. The District and HMPC members did, however, note that in Placer County, the strength of storms does seem to be increasing and the temperatures seem to be getting hotter. Hotter temperatures, combined with recent drought conditions, exacerbates the potential for damaging wildfires.

Vulnerability to and Impacts from Climate Change

The California Adaptation Planning Guide (APG) prepared by California OES and CNRA was developed to provide guidance and support for local governments and regional collaboratives to address the unavoidable consequences of climate change. California's APG: Understanding Regional Characteristics has divided California into 11 different regions based on political boundaries, projected climate impacts, existing environmental setting, socioeconomic factors and regional designations. Placer County falls within the North Sierra Region characterized as a sparsely settled mountainous region where the region's economy is primarily tourism-based. The region is rich in natural resources, biodiversity, and is the source for the

majority of water used by the state. This information can be used to guide climate adaptation planning in the District and Placer County Planning Area.

The California APG: Understanding Regional Characteristics identified the following impacts specific to the North Sierra region in which the Placer County Planning Area is part of:

- Temperature increases
- Decreased precipitation
- Reduced snowpack
- Reduced tourism
- Ecosystem change
- Sensitive species stress
- Increased wildfire

The District noted that there is a greater number of calls for heat related health issues as well as larger and more dangerous wildfires

Assets at Risk

The District noted that its facilities will most likely not be at risk from climate change.

Drought & Water Shortage

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

Drought is a complex issue involving many factors—it occurs when a normal amount of precipitation and snow is not available to satisfy an area's usual water-consuming activities. Drought can often be defined regionally based on its effects. Drought is different than many of the other natural hazards in that it is not a distinct event and usually has a slow onset. Drought can severely impact a region both physically and economically. Drought affects different sectors in different ways and with varying intensities. Adequate water is the most critical issue and is critical for agriculture, manufacturing, tourism, recreation, and commercial and domestic use. As the population in the area continues to grow, so will the demand for water.

Location and Extent

Drought and water shortage are regional phenomenon. The whole of the County, as well as the whole of the District, is at risk. The US Drought Monitor categorizes drought conditions with the following scale:

- None
- D0 – Abnormally dry
- D1 – Moderate Drought
- D2 – Severe Drought
- D3 – Extreme drought

- D4 – Exceptional drought

Drought has a slow speed of onset and a variable duration. Drought can last for a short period of time, which does not usually affect water shortages and for longer periods. Should a drought last for a long period of time, water shortage becomes a larger issue. Current drought conditions in the District and the County are shown in Section 4.3.10 of the Base Plan.

Past Occurrences

There has been one state and one federal disaster declaration due to drought since 1950. This can be seen in Table V-5.

Table V-5 Placer County – State and Federal Disaster Declarations Summary 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Drought	1	2014	1	1977

Source: Cal OES, FEMA

Since drought is a regional phenomenon, past occurrences of drought for the District are the same as those for the County and includes 5 multi-year droughts over an 85-year period. Details on past drought occurrences can be found in Section 4.3.10 of the Base Plan.

Vulnerability to and Impacts from Drought and Water Shortage

Based on historical information, the occurrence of drought in California, including the District, is cyclical, driven by weather patterns. Drought has occurred in the past and will occur in the future. Periods of actual drought with adverse impacts can vary in duration, and the period between droughts can be extended. Although an area may be under an extended dry period, determining when it becomes a drought is based on impacts to individual water users. Drought impacts are wide-reaching and may be economic, environmental, and/or societal. Tracking drought impacts can be difficult.

The most significant qualitative impacts associated with drought in the Placer County Planning Area are those related to water intensive activities such as agriculture, wildfire protection, municipal usage, commerce, tourism, recreation, and wildlife preservation. Mandatory conservation measures are typically implemented during extended droughts. Drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding. With a reduction in water, water supply issues based on water rights becomes more evident. Climate change may create additional impacts to drought and water shortage in the County and the District.

During periods of drought, vegetation can dry out which increases fire risk. Drought that occurs during periods of extreme heat and high winds can cause Public Safety Power Shutoff (PSPS) events to be declared in the County. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section below, as well as in Section 4.3.2 of the Base Plan.

Drought would most definitely affect the crop productions and pre-dry the lighter fuels creating more volatile wildfire conditions in the non-developed open areas of the District.

Assets at Risk

No District assets (from Table V-4) are at direct risk from this hazard.

Earthquake

Likelihood of Future Occurrence–Unlikely
Vulnerability–Medium

Hazard Profile and Problem Description

An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the sides of the fault together. Stress builds up, and the rocks slip suddenly, releasing energy in waves that travel through the earth's crust and cause the shaking that is felt during an earthquake. Earthquakes can cause structural damage, injury, and loss of life, as well as damage to infrastructure networks, such as water, power, gas, communication, and transportation. Earthquakes may also cause collateral emergencies including dam and levee failures, seiches, hazmat incidents, fires, avalanches, and landslides. The degree of damage depends on many interrelated factors. Among these are: the magnitude, focal depth, distance from the causative fault, source mechanism, duration of shaking, high rock accelerations, type of surface deposits or bedrock, degree of consolidation of surface deposits, presence of high groundwater, topography, and the design, type, and quality of building construction.

Location and Extent

The amount of energy released during an earthquake is usually expressed as a magnitude and is measured directly from the earthquake as recorded on seismographs. An earthquake's magnitude is expressed in whole numbers and decimals (e.g., 6.8). Seismologists have developed several magnitude scales, as discussed in Section 4.3.11 of the Base Plan. Placer County itself is traversed by a series of northwest-trending faults, called the Foothill Fault Zone, that are related to the Sierra Nevada uplift. This was the source of Oroville's 1975 earthquake (and an earlier event in the 1940s). Subsequent research of these events led to the identification and naming of the zone and questions about the siting and design of the proposed Auburn Dam. Earthquakes on nearby fault segments in the zone could be the source of ground shaking in the Placer County Planning Area.

Although portions of western and eastern Placer County are located in a seismically active region, no known faults actually go through any of the cities or towns. However, the Bear Mountain and the Melones faults are situated approximately three to four miles west and east of the City of Auburn respectively. Earthquakes on these two faults would have the greatest potential for damaging buildings in Auburn, especially the unreinforced masonry structures in the older part of the city and homes built before 1960 without adequate anchorage of framing and foundations. Similar lower magnitude but nearby earthquakes are capable of producing comparable damages in other Placer County communities.

Another measure of earthquake severity is intensity. Intensity is an expression of the amount of shaking at any given location on the ground surface. Seismic shaking is typically the greatest cause of losses to structures during earthquakes. Seismic shaking maps for the area show Placer County and the District fall within a low to moderate shake risk.

Past Occurrences

There have be no past federal or state disaster declarations from this hazard. The District noted no past occurrences of earthquakes or that affected the District in any meaningful way.

Vulnerability to and Impacts from Earthquake

The combination of plate tectonics and associated California coastal mountain range building geology generates earthquake as a result of the periodic release of tectonic stresses. Placer County lies in the center of the North American and Pacific tectonic plate activity. There have been earthquakes as a result of this activity in the historic past, and there will continue to be earthquakes in the future of the California north coastal mountain region.

Fault ruptures itself contributes very little to damage unless the structure or system element crosses the active fault; however, liquefaction can occur further from the source of the earthquake. In general, newer construction is more earthquake resistant than older construction due to enforcement of improved building codes. Manufactured buildings can be very susceptible to damage because their foundation systems are rarely braced for earthquake motions. Locally generated earthquake motions and associated liquefaction, even from very moderate events, tend to be more damaging to smaller buildings, especially those constructed of unreinforced masonry (URM) and soft story buildings. There are no URM or soft story buildings in the District.

The Uniform Building Code (UBC) identifies four seismic zones in the United States. The zones are numbered one through four, with Zone 4 representing the highest level of seismic hazard. The UBC establishes more stringent construction standards for areas within Zones 3 and 4. All of California lies within either Zone 3 or Zone 4. The SPFPD is within the less hazardous Zone 3.

Impacts from earthquake in the District will vary depending on the fault that the earthquake occurs on, the depth of the earthquake strike, and the intensity of shaking. Large events could cause damages to infrastructure, critical facilities, residential and commercial properties, and possible injuries or loss of life.

Small bridges located within residential neighborhoods would be at risk from an earthquake. If a bridge were to become damaged it could prohibit or significantly delay our response to a call for service. Damage to individual gas and water lines in both residential and commercial structures during an earthquake could result in localized flooding or a fire if an ignition source is nearby. Lastly, earthquake damage to the Levee located along Auburn Folsom Rd. could result in local flooding and/or damage to the roadway which could prohibit travel north and south along the eastern edge of the District.

Assets at Risk

Station 17 could be at risk from Earthquake damage if the levee adjacent to Auburn Folsom Rd. failed. Flooding from a break could impact this Station with damage to our network, communications, and computer systems which are currently located within this structure. Fire Stations are built with increased structural support and reinforcement as mandated by Building and Fire Codes in California to begin with, so no identifiable retrofitting is required on any of our facilities.

Flood: 1%/0.2% Annual Chance

Likelihood of Future Occurrence–Occasional
Vulnerability–Medium

Hazard Profile and Problem Description

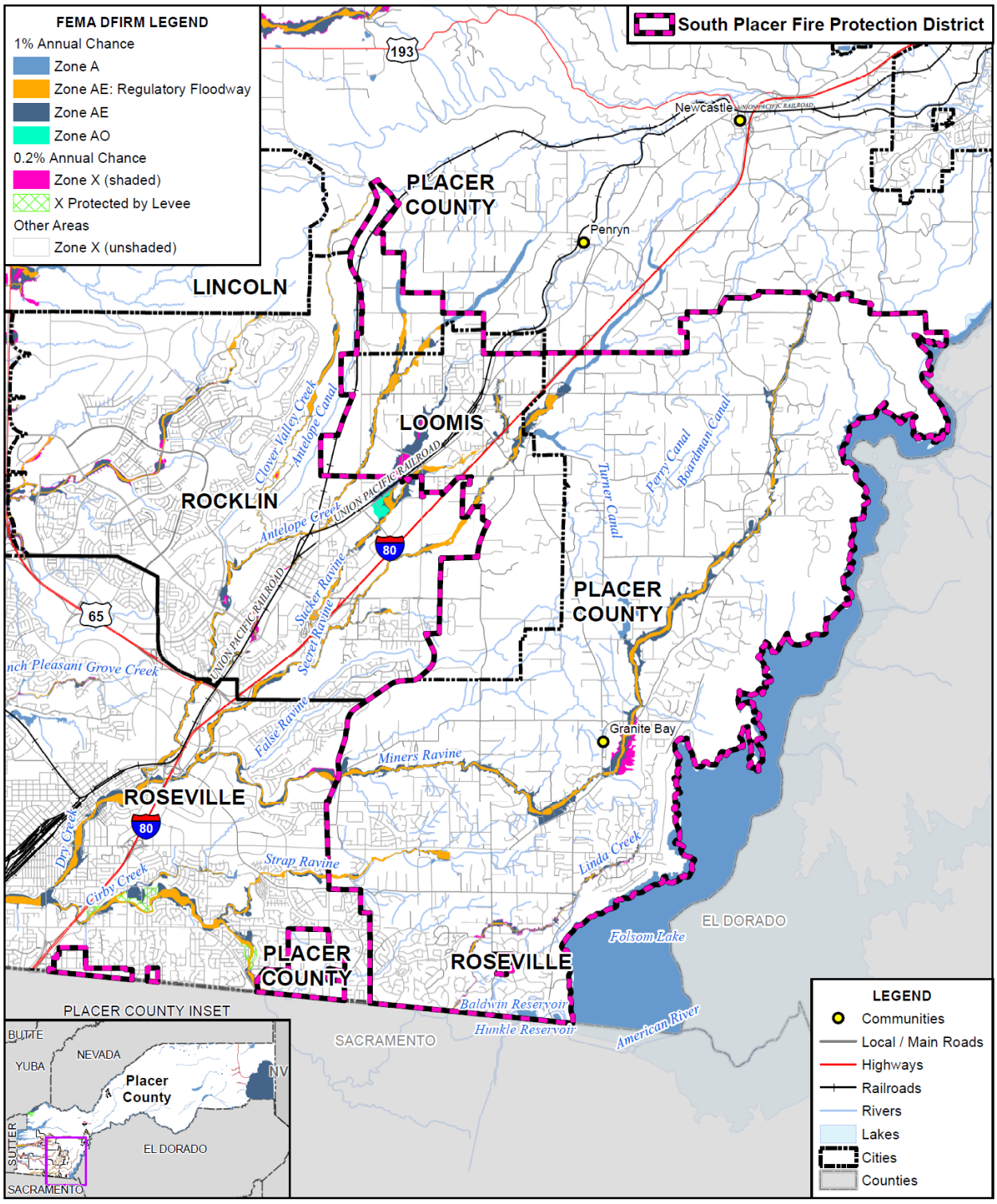
This hazard analyzes the FEMA DFIRM 1% and 0.2% annual chance floods. These tend to be the larger floods that can occur in the County or in the District, and have caused damages in the past. Flooding is a significant problem in Placer County and the District. Historically, the District has been at risk to flooding primarily during the winter and spring months when river systems in the County swell with heavy rainfall and snowmelt runoff. Normally, storm floodwaters are kept within defined limits by a variety of storm drainage and flood control measures. Occasionally, extended heavy rains result in floodwaters that exceed normal high-water boundaries and cause damage.

As previously described in Section 4.3.12 of the Base Plan, the Placer County Planning Area and the South Placer FPD have been subject to historical flooding.

Location and Extent

The South Placer FPD has areas located in the 1% and 0.2% annual chance floodplain. This is seen in Figure V-2.

Figure V-2 South Placer FPD – FEMA DFIRM Flood Zones



Data Source: FEMA DFIRM 11/2/2018, Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Table V-6 details the DFIRM mapped flood zones within the 1% annual chance flood zone as well as other flood zones located within the District.

Table V-6 South Placer FPD– DFIRM Flood Hazard Zones

Flood Zone	Description	Flood Zone Present in the District
A	1% annual chance flooding: No base flood elevations provided	X
AE	1% annual chance flooding: Base flood elevations provided	X
AE Floodway	1% annual chance flood: Regulatory floodway; Base flood elevations provided	X
AO	1% annual chance flooding: sheet flow areas. BFEs derived from detailed hydraulic analyses are shown in this zone.	X
Shaded X	0.2% annual chance flooding: The areas between the limits of the 1% annual chance flood and the 0.2-percent-annual-chance (or 500-year) flood	X
X Protected by Levee	Areas protected by levees from 1% annual chance flood event. Levee protection places these areas in the 0.2% annual chance flood zone.	
X (unshaded)	No flood hazard	X

Source: FEMA

Additionally, flood extents can generally be measured in volume, velocity, and depths of flooding. Expected flood depths in the District vary, depending on the nature and extent of a flood event; specific depths are unknown. Flood durations in the District tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Flooding in the District tends to have a shorter speed of onset, due to the amount of water that flows through the District.

Past Occurrences

A list of state and federal disaster declarations for Placer County from flooding is shown on Table V-7. These events also likely affected the District to some degree.

Table V-7 Placer County – State and Federal Disaster Declarations from Flood 1950-2020

Disaster Type	Federal Declarations		State Declarations	
	Count	Years	Count	Years
Flood (including heavy rains and storms)	16	1950, 1955, 1958 (twice), 1962, 1963, 1969, 1973, 1980, 1983, 1986, 1995 (twice), 1997, 2008, 2017	13	1955, 1958, 1962, 1964, 1969, 1983, 1986, 1995 (twice), 1997, 2006 (twice), 2017

Source: Cal OES, FEMA

Vulnerability to and Impacts from Flood

Floods have been a part of the District's historical past and will continue to be so in the future. During winter months, long periods of precipitation and the timing of that precipitation are critical in determining

the threat of flood, and these characteristics further dictate the potential for widespread structural and property damages. Predominantly, the effects of flooding are generally confined to areas near the waterways of the County. As waterways grow in size from local drainages, so grows the threat of flood and dimensions of the threat. This threatens structures in the floodplain. Structures can also be damaged from trees falling as a result of water-saturated soils. Electrical power outages happen, and the interruption of power causes major problems. Loss of power is usually a precursor to closure of governmental offices and community businesses. Roads can be damaged and closed, causing safety and evacuation issues. People may be swept away in floodwaters, causing injuries or deaths.

Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes, and utilities as well as life safety issues. Floods can be extremely dangerous, and even six inches of moving water can knock over a person given a strong current. During a flood, people can also suffer heart attacks or electrocution due to electrical equipment short outs. Floodwaters can transport large objects downstream which can damage or remove stationary structures. Ground saturation can result in instability, collapse, or other damage. Objects can also be buried or destroyed through sediment deposition. Floodwaters can also break utility lines and interrupt services. Standing water can cause damage to crops, roads, foundations, and electrical circuits. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, loss of environmental resources, and economic impacts.

The District is concerned with damage to commercial and residential properties from flooded creeks and ravines. This also may cause reduced crop production in the District.

Assets at Risk

No District assets (from Table V-4) are at direct risk from this hazard.

Flood: Localized Stormwater Flooding

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

Flooding occurs in areas other than the FEMA mapped 1% and 0.2% annual chance floodplains. Flooding may be from drainages not studied by FEMA, lack of or inadequate drainage infrastructure, or inadequate maintenance. Localized, stormwater flooding occurs throughout the County during the rainy season from November through April. Prolonged heavy rainfall contributes to a large volume of runoff resulting in high peak flows of moderate duration.

Location and Extent

The South Placer FPD is subject to localized flooding throughout the District. Flood extents are usually measured in areas affected, velocity of flooding, and depths of flooding. Expected flood depths in the District vary by location. Flood durations in the District tend to be short to medium term, or until either the

storm drainage system can catch up or flood waters move downstream. Localized flooding in the District tends to have a shorter speed of onset, especially when antecedent rainfall has soaked the ground and reduced its capacity to absorb additional moisture.

The District tracks localized flooding areas. There are many localized flooding areas in the District. The localized flood areas identified by the South Placer FPD are summarized in Table V-8.

Table V-8 South Placer FPD – List of Localized Flooding Problem Areas

Area Name	Flooding	Pavement Deterioration	Washout	High Water	Landslide/ Mudslide	Debris	Downed Trees
Auburn Folsom	X						X
Joe Rodgers							X
Barton	X						
Itchy Acres	X						X
Cavitt Stallman	X						

Source: South Placer FPD

Past Occurrences

There have been no federal or state disaster declarations in the County due to localized flooding. The District noted the following past occurrences of localized flooding:

- Auburn Folsom Road is occasionally affected by overflowing streams and ravines as well as clogged storm drains which slowed travel and increased the likelihood of vehicle accidents. Some trees have fallen in this area and restricted travel but caused minimal damage to residences within this area.
- Joe Rodgers Rd was previously a problem area but improvements to the drainage in and around this area has made it less of a severe impact to the District. Some trees have fallen in this area and restricted travel but caused minimal damage to residences within this area.
- Barton Rd. is occasionally affected by overflowing streams and ravines as well as clogged storm drains which slowed travel and increased the likelihood of vehicle accidents.
- Itchy Acres is occasionally affected by overflowing streams and ravines as well as clogged storm drains which slowed travel and increased the likelihood of vehicle accidents. Some trees have fallen in this area and restricted travel but caused minimal damage to residences within this area.
- Cavitt Stallman Rd. is occasionally affected by overflowing streams and ravines as well as clogged storm drains which slowed travel and increased the likelihood of vehicle accidents.

Improvements have been made to drainage as well as the flow of streams and ravines within the District over the last few years and as a result we saw less adverse conditions from localized flooding during the heavy winter storms of 2017,2019, and 2021. However, the District does still continue to experience a moderate number of downed trees which occasionally impede travel or under the most extreme conditions cause fires in vegetation or residential occupancies when they come in contact with overhead power lines.

Vulnerability to and Impacts from Localized Flooding

Historically, much of the growth in the District and County has occurred adjacent to streams, resulting in significant damages to property, and losses from disruption of community activities when the streams

overflow. Additional development in the watersheds of these streams affects both the frequency and duration of damaging floods through an increase in stormwater runoff.

Primary concerns associated with stormwater flooding include life safety issues, and impacts to property and to infrastructure that provides a means of ingress and egress throughout the community. Ground saturation can result in instability, collapse, or other damage to trees, structures, roadways and other critical infrastructure. Objects can also be buried or destroyed through sediment deposition. Floodwaters can break utility lines and interrupt services. Standing water can cause damage to crops, roads, and foundations. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, losses of environmental resources, and certain health hazards.

Assets at Risk

No District assets (from Table V-4) are at direct risk from this hazard.

Levee Failure

Likelihood of Future Occurrence–Unlikely
Vulnerability–Medium

Hazard Profile and Problem Description

A levee is a raised area that runs along the banks of a stream or canal. Levees reinforce the banks and help prevent flooding by containing higher flow events to the main stream channel. By confining the flow to a narrower steam channel, levees can also increase the speed of the water. Levees can be natural or man-made.

Levees provide strong flood protection, but they are not failsafe. Levees are designed to protect against a specific flood level and could be overtopped during severe weather events or dam failure. For example, levees can be certified to provide protection against the 1% annual chance flood. Levees reduce, not eliminate, the risk to individuals and structures located behind them. A levee system failure or overtopping can create severe flooding and high water velocities. Levee failure can occur through overtopping or from seepage issues resulting from burrowing rodents, general erosion, excessive vegetation and root systems and other factors that compromise the integrity of the levee. No levee provides protection from events for which it was not designed, and proper operation and maintenance are necessary to reduce the probability of failure.

Location and Extent

There is not a scientific scale or measurement system in place for levee failure. Expected flood depths from a levee failure in the District vary by event and location. The speed of onset is slow as the river rises, but if a levee fails the warning times are generally short for those in the inundation area. The duration of levee failure risk times can be hours to weeks, depending on the river flows that the levee holds back. When northern California dams and reservoirs are nearing maximum capacity, they release water through the river systems, causing additional burdens on County levees. Levees in the District were shown on Figure V-2.

The South Placer Fire District is bordered by a large levee that parallels Auburn Folsom Rd between Eureka Rd. and Beals Point. This levee was created to contain and form this portion of Folsom Lake.

Past Occurrences

There have been no federal or state disaster declarations from levee failure. The District Planning Team noted no past occurrences of levee failures.

Vulnerability to and Impacts from Levee Failure

A levee failure can range from a small, uncontrolled release to a catastrophic failure. Levee failure flooding can occur as the result of prolonged rainfall and flooding. The primary danger associated with levee failure is the high velocity flooding of those properties outside and downstream of the breach.

Should a levee fail, some or all of the area protected by the levees would be at risk to flooding. Impacts from a levee failure include property damage, critical facility damage, and life safety issues. Business and economic losses could be large as facilities could be flooded and services interrupted. School and road closures could occur. Road closures would impede both evacuation routes and ability of first responders to quickly respond to calls for aid. Other problems connected with levee failure flooding include erosion, sedimentation, degradation of water quality, losses of environmental resources, and certain health hazards.

Levee failure risk in the District is the same as the flood vulnerability however Station 17 could experience significant issues if the levee along Auburn Folsom Rd. failed. Flooding could damage the Fire Station as well as the apparatus housed within this Station including a Fire Truck, Engine, Rescue Unit, and Brush Unit. In addition, Station 17 is the hub for our computer network and could affect outlying Fire Stations ability to access computer programs and/or phone lines that are utilized on a regular basis for departments activities such as staffing and run reports. Fire Inspection and Investigation records could be damaged or lost as well. If damage occurred to the mechanics shop it could affect the Districts ability to repair its fleet and it would have to outsource that service which could significantly delay repair times.

Assets at Risk

The areas at greatest risk from a levee failure would be Fire Station 17, the Administration Portables at Station 17 as well as the mechanics shop at this location

Severe Weather: Extreme Heat

Likelihood of Future Occurrence–Highly Likely
Vulnerability–Medium

Hazard Profile and Problem Description

According to FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Heat kills by taxing the human body beyond its abilities. In extreme heat and high humidity, evaporation is slowed, and the body must work extra hard to maintain a normal temperature." Most heat disorders occur because the victim has been

overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.

In addition to the risks faced by citizens of the District, there are risk to the built environment from extreme heat. While extreme heat on its own does not usually affect structure, extreme heat during times of drought can cause wildfire risk to heighten. Extreme heat and high winds can cause power outages and PSPS events, causing issues to buildings in the District.

Extreme Heat and Power Shortage/Power Failure

The US power grid crisscrosses the country, bringing electricity to homes, offices, factories, warehouses, farms, traffic lights and even campgrounds. According to statistics gathered by the Department of Energy, major blackouts are on the upswing. Incredibly, over the past two decades, blackouts impacting at least 50,000 customers have increased 124 percent. The electric power industry does not have a universal agreement for classifying disruptions. Nevertheless, it is important to recognize that different types of outages are possible so that plans may be made to handle them effectively. In addition to blackouts, brownouts can occur. A brownout is an intentional or unintentional drop in voltage in an electrical power supply system. Intentional brownouts are used for load reduction in an emergency. Electric power disruptions can be generally grouped into two categories: intentional and unintentional. More information on types of power outages can be found in Section 4.3.2 of the Base Plan.

Public Safety Power Shutoff (PSPS)

A new intentional disruption type of power shortage/failure event has recently occurred in California. In recent years, several wildfires have started as a result of downed power lines or electrical equipment. This was the case for the Camp Fire in 2018. As a result, California's three largest energy companies (including PG&E), at the direction of the California Public Utilities Commission (CPUC), are coordinating to prepare all Californians for the threat of wildfires and power outages during times of extreme weather. To help protect customers and communities during extreme weather events, including periods of high winds, high temperatures, and low humidity, electric power may be shut off for public safety in an effort to prevent a wildfire. This is called a PSPS. More information on PSPS criteria can be found in Section 4.3.2 of the Base Plan.

Location and Extent

Heat is a regional phenomenon and affects the whole of the District. Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly affect vulnerable populations and communities. Heat waves do not generally cause damage or elicit the immediate response of floods, fires, earthquakes, or other more "typical" disaster scenarios.

The NWS has in place a system to initiate alert procedures (advisories or warnings) when extreme heat is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. The NWS HeatRisk forecast provides a quick view of heat risk potential over the upcoming seven days. The heat risk is portrayed in a numeric (0-4) and color

(green/yellow/orange/red/magenta) scale which is similar in approach to the Air Quality Index (AQI) or the UV Index. This can be seen in Section 4.3.2 of the Base Plan.

Past Occurrences

There has been no federal or state disaster declarations in the County for heat. The District Planning Team noted that since extreme heat is a regional phenomenon, events that affected the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.2.

PSP events have negatively impacted and affected Fire Station 20 which experienced several power shutdowns in 2019. In 2020 the District installed an Emergency Backup Generator at this location and the effects are now nonexistent. Increased calls for service due to heat related health issues have increased slightly as does the District's emergency response occurrences to Folsom Lake as the number of visitors increases during extended periods of high daytime temperatures.

Vulnerability to and Impacts from Extreme Heat

The District experiences temperatures in excess of 100°F during the summer and fall months. The temperature moves to 105-110°F in rather extreme situations. During these times, drought conditions may worsen. Also, power outages and PSPS events may occur during these times as well, especially when combined with the potential for severe wind events. Health impacts, including loss of life, are often the primary concern with this hazard, though economic impacts can also be an issue.

Days of extreme heat have been known to result in medical emergencies, and unpredictable human behavior. Periods of extended heat and dryness (droughts) can have major economic, agricultural, and water resources impacts. Extreme heat can also dry out vegetations, making it more vulnerable to wildfire ignitions.

High temperatures create volatile light flashy fuels, creating a severe fire hazard throughout the entire District, especially in the WUI. Reduced crop production would result as well.

Assets at Risk

All Fire Stations and Fire District Employees are at risk and can be negatively impacted by extreme heat in our area.

Severe Weather: Freeze and Snow

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

According to the NWS and the WRCC, winter snowstorms can include heavy snow, ice, and blizzard conditions. Heavy snow can immobilize a region, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. Accumulations of snow can collapse roofs and knock down

trees and power lines. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, damage repair, and business losses can have a tremendous impact on cities and towns.

Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days until the damage can be repaired. Power outages can have a significant impact on communities, especially critical facilities such as public utilities. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians.

Some winter storms are accompanied by strong winds, creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chills. Strong winds accompanying these intense storms and cold fronts can knock down trees, utility poles, and power lines. Blowing snow can reduce visibility to only a few feet in areas where there are no trees or buildings. Serious vehicle accidents with injuries and deaths can result. Freezing temperatures can cause significant damage to the agricultural industry.

Location and Extent

Freeze and snow are regional issues, meaning the entire District is at risk to cold weather and freeze events. While there is no scale (i.e. Richter, Enhanced Fujita) to measure the effects of freeze, the WRCC reports that in a typical year, minimum temperatures fall below 32°F on 22.6 days with 0 days falling below 0°F in western Placer County. Snowfall is measured in depths, and the WRCC reports that average snowfall on the western side of the County is 1.4 inches. Freeze and snow have a slow onset and can generally be predicted in advance for the County. Freeze events can last for hours (in a cold overnight), or for days to weeks at a time. Snow event can last for hours or days, but is more unlikely in the western portion of the County. When it does snow, the snow often melts relatively quickly.

Past Occurrences

There has been no federal and one state disaster declarations in the County for freeze and snow, as shown on Table V-9.

Table V-9 Placer County – State and Federal Disaster Declarations from Freeze and Snow 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Freeze	1	1972	0	–

Source: Cal OES, FEMA

The District noted that cold and freeze is a regional phenomenon; events that affected the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.3.

The District has had minimal impacts due to cold and freeze events in our area. The most common experience is water pipes that burst and generate calls for service to assist home and business owners. There typically is no snow at our District's elevation so it is not an issue in our area.

Vulnerability to and Impacts from Severe Weather: Freeze and Snow

The District experiences temperatures below 32 degrees during the winter months. Freeze can cause injury or loss of life to residents of the District. While it is rare for buildings to be affected directly by freeze, damages to pipes that feed building can be damaged during periods of extreme cold. Freeze and snow can occasionally be accompanied by high winds, which can cause downed trees and power lines, power outages, accidents, and road closures. Transportation networks, communications, and utilities infrastructure are the most vulnerable physical assets to impacts of severe winter weather in the County. During extreme winter events, response times to emergencies may be extended.

The District has concerns with reduced crop production, in addition to infrastructure damage due to frozen pipes.

Assets at Risk

All Fire Stations within the District are at risk for broken pipes however the constant occupation of our buildings during the day and night significantly reduces that probability.

Severe Weather: Heavy Rains and Storms (Hail, Lightning)

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

Storms in the District occur annually and are generally characterized by heavy rain often accompanied by strong winds and sometimes lightning and hail. Approximately 10 percent of the thunderstorms that occur each year in the United States are classified as severe. A thunderstorm is classified as severe when it contains one or more of the following phenomena: hail that is three-quarters of an inch or greater, winds in excess of 50 knots (57.5 mph), or a tornado. Heavy precipitation in the District falls mainly in the fall, winter, and spring months.

Location and Extent

Heavy rain events occur on a regional basis. Rains and storms can occur in any location of the District. All portions of the District are at risk to heavy rains. Most of the severe rains occur during the fall, winter, and spring months. There is no scale by which heavy rains and severe storms are measured. Magnitude of storms is measured often in rainfall and damages. The speed of onset of heavy rains can be short, but accurate weather prediction mechanisms often let the public know of upcoming events. Duration of severe storms in California, Placer County, and the District can range from minutes to hours to days. Information on precipitation extremes can be found in Section 4.3.4 of the Base Plan.

Past Occurrences

There have been past disaster declarations from heavy rains and storms, which were discussed in Past Occurrences of the flood section above. According to historical hazard data, severe weather, including

heavy rains and storms, is an annual occurrence in the District. This is the cause of many of the federal disaster declarations related to flooding. Though there have been no significant events in the District in the past five years, the impact is of severe storms is felt by the need to upstaff our crews as well as a significant increase in call volume for weather related emergencies including but not limited to vehicle accidents, down trees, localized flooding, and damage to homes.

Vulnerability to and Impacts from Heavy Rain and Storms

Heavy rain and severe storms are the most frequent type of severe weather occurrences in the District. These events can cause localized flooding. Elongated events, or events that occur during times where the ground is already saturated can cause 1% and 0.2% annual chance flooding. Wind often accompanies these storms and has caused damage in the past. Hail and lightning are rare in the District.

Actual damage associated with the effects of severe weather include impacts to property, critical facilities (such as utilities), and life safety. Heavy rains and storms often result in localized flooding creating significant issues. Roads can become impassable and ground saturation can result in instability, collapse, or other damage to trees, structures, roadways and other critical infrastructure. Floodwaters and downed trees can break utilities and interrupt services.

During periods of heavy rains and storms, power outages can occur. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section above, as well as in Section 4.3.2 of the Base Plan.

All District Fire Stations are susceptible to damage from severe storms. District apparatus can be impacted by physical damage to the unit while responding to and from an emergency, a catastrophic event at one of our Fire Stations due to the weather or blocked and/or flooded roadway. Impacts to the District are the costs incurred with damage to a Statin or one our Apparatus as well as delayed response times to an emergency if a unit or station is out of service.

Assets at Risk

All Fire Stations and Apparatus within the District are at risk from this hazard.

Severe Weather: High Winds and Tornadoes

Likelihood of Future Occurrence–Likely
Vulnerability–Medium

Hazard Profile and Problem Description

High winds, as defined by the NWS glossary, are sustained wind speeds of 40 mph or greater lasting for 1 hour or longer, or winds of 58 mph or greater for any duration. High winds can cause significant property and crop damage, threaten public safety, and have adverse economic impacts from business closures and power loss. High winds are a primary factor in PSPS events.

Tornadoes are rotating columns of air marked by a funnel-shaped downward extension of a cumulonimbus cloud whirling at destructive speeds of up to 300 mph, usually accompanying a thunderstorm. Tornadoes form when cool, dry air sits on top of warm, moist air. Tornadoes are the most powerful storms that exist. Tornadoes, though rare, are another severe weather hazard that can affect areas of the Placer County Planning Area, primarily during the rainy season in the late fall, winter, and early spring.

Location and Extent

The entire District is subject to significant, non-tornadic (straight-line), winds. Each area of the County is at risk to high winds. Magnitude of winds is measured often in speed and damages. These events are often part of a heavy rain and storm event, but can occur outside of storms. The speed of onset of winds can be short, but accurate weather prediction mechanisms often let the public know of upcoming events. Duration of winds in California is often short, ranging from minutes to hours. The Beaufort scale is an empirical 12 category scale that relates wind speed to observed conditions at sea or on land. Its full name is the Beaufort Wind Force Scale. The Beaufort Scale was shown in Section 4.3.5 of the Base Plan.

Portions of the County are also located in a special wind hazard region, which is a result of foehn winds. A foehn wind is a type of dry down-slope wind that occurs in the lee (downwind side) of a mountain range. Winds of this type are called "snow-eaters" for their ability to make snow melt or sublimate rapidly. This snow-removing ability is caused not only by warmer temperatures, but also the low relative humidity of the air mass coming over the mountain(s). They are also associated with the rapid spread of wildfires, making some regions which experience these winds particularly fire prone.

Tornadoes, while rare, can occur at any location in the County and District. Prior to February 1, 2007, tornado intensity was measured by the Fujita (F) scale. This scale was revised and is now the Enhanced Fujita scale. Both scales are sets of wind estimates (not measurements) based on damage. The new scale (EF) provides more damage indicators (28) and associated degrees of damage, allowing for more detailed analysis and better correlation between damage and wind speed. It is also more precise because it considers the materials affected and the construction of structures damaged by a tornado. The F Scale and EF Scale are shown in Section 4.3.5 of the Base Plan.

Past Occurrences

There has been no federal or state disaster declarations in the County for winds and tornadoes. The District noted that since high winds is a regional phenomenon, events that affected the lower elevations of the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.5.

In the District, high winds can cause issues for residents and District personnel. The HMPC provided past occurrences of wind events for the District. Downed power lines, caused by wind events, occurred 143 times between 1985 and 2015. 28 other severe weather events occurred inside District boundaries.

The District experienced a significant storm event on January 28th, 2021. This storm brought very high winds to the area and numerous trees fell causing a series of emergencies. Several trees fell against power lines causing small spot fires however one of these incidents did cause a power surge which subsequently caused a structure fire at a residence. In addition, one of our Fire Engines got stuck in soft ground as it attempted to maneuver around fallen trees across a driveway as it responded to an emergency. Once stuck,

the Engine blocked other Fire Engines and equipment and hose lines had to be hand carried to the home to address the emergency. No injuries or damage to our apparatus were reported but the blocked driveway did cause a significant delay in our response.

Vulnerability to and Impacts from Severe Weather: Wind and Tornado

High winds are common occurrences in the District throughout the entire year. Straight line winds are primarily a public safety and economic concern. Windstorm can cause damage to structures and power lines which in turn can create hazardous conditions for people. Debris flying from high wind events can shatter windows in structures and vehicles and can harm people that are not adequately sheltered. High winds can impact critical facilities and infrastructure and can lead to power outages. Wind can also drive wildfire flames, spreading wildfires quickly, During periods of high winds and dry vegetation, wildfire risk increases. High winds that occur during periods of extreme heat can cause PSPS events to be declared in the County. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section above, as well as in Section 4.3.2 of the Base Plan.

Impacts from high winds in the District will vary. Future losses from straight line winds include:

- Downed trees
- Power line impacts and economic losses from power outages
- Increased PSPS events
- Occasional building damage, primarily to roofs

All Fire Stations within the District are vulnerable to high wind damage which can cause falling trees into our buildings or across our driveways. All Fire Apparatus are vulnerable to high wind damage also in the form of falling trees while in quarters or when responding to an emergency. Damage to a Station or Apparatus can result in that unit being out of service which can delay emergency response times in that area as units from a neighboring Fire Station or jurisdiction would have to be utilized to respond to the emergency.

Assets at Risk

All Fire Stations and Apparatus are at risk from high winds in the form of fallen trees in, on or around our facilities and equipment.

Wildfire

Likelihood of Future Occurrence–Highly Likely
Vulnerability–High

Hazard Profile and Problem Description

Wildland fire and the risk of a conflagration is an ongoing concern for the South Placer FPD. Throughout California, communities are increasingly concerned about wildfire safety as increased development in the foothills and mountain areas and subsequent fire control practices have affected the natural cycle of the ecosystem. Wildland fires affect grass, forest, and brushlands, as well as any structures located within them. Where there is human access to wildland areas the risk of fire increases due to a greater chance for

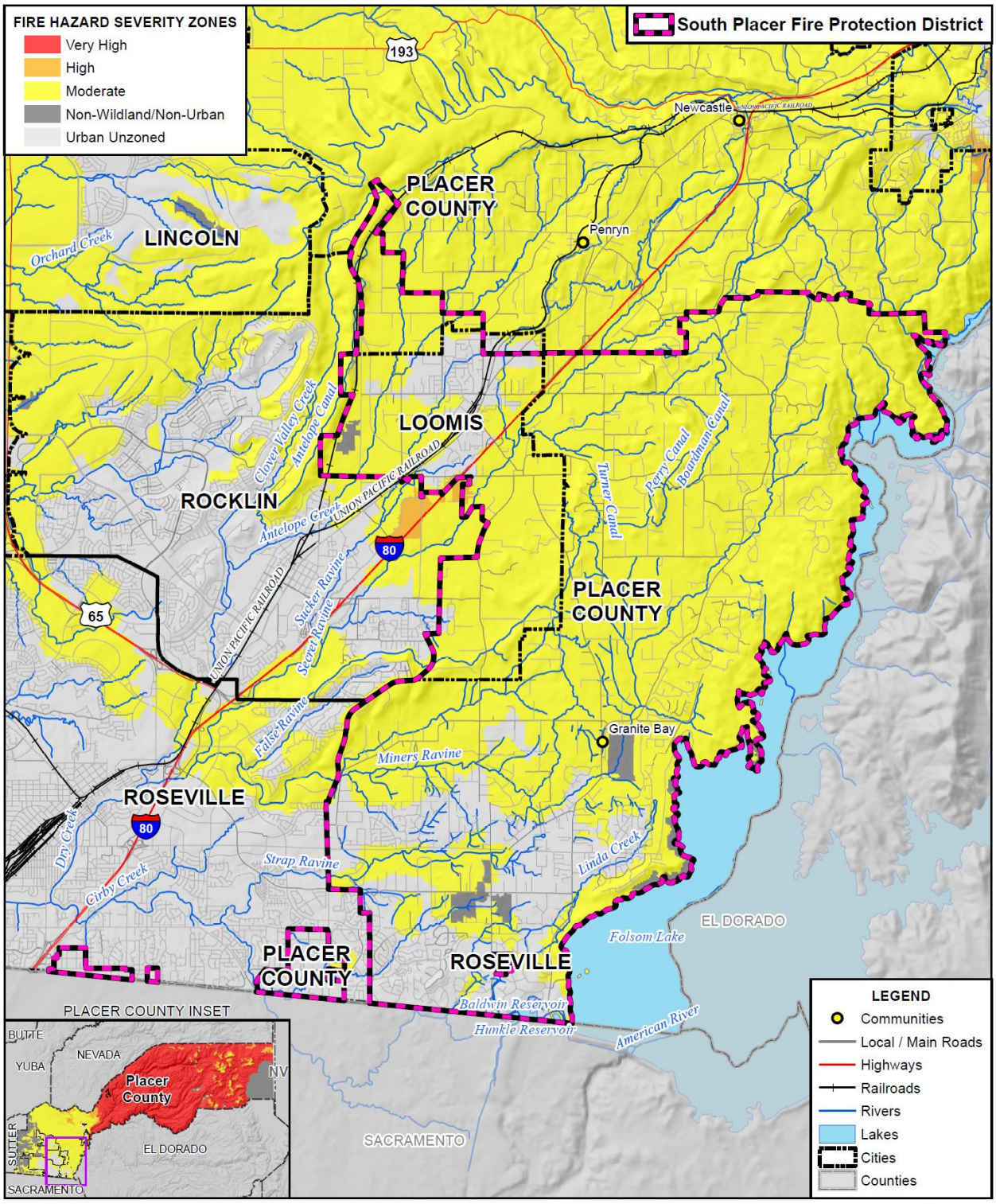
human carelessness and historical fire management practices. Historically, the fire season extends from early spring through late fall of each year during the hotter, dryer months; however, in recent years, the risk of wildfire has become a year around concern. Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, accumulation of vegetation, and high winds. While wildfire risk has predominantly been associated with more remote forested areas and wildland urban interface (WUI) areas, significant wildfires can also occur in more populated, urban areas

Location and Extent

Wildfire can affect all areas of the District. CAL FIRE has estimated that the risk varies across the District and has created maps showing risk variance. Following the methodology described in Section 4.3.19 of the Base Plan, wildfire maps for the South Placer FPD were created. Figure V-3 shows the CAL FIRE FHSZ in the District. As shown on the maps, the fire hazard severity zone within the District falls into the Moderate range.

The California Department of Forestry and Fire Protection (Cal Fire) provides services throughout the State. Generally, Cal Fire services are focused in wildland areas defined as state responsibility areas (SRA). Similarly, the United States Forest Service (USFS) also provides services in California, primarily within forests and grasslands. Areas where USFS services are focused are defined as federal responsibility areas (FRA). The territory of the District that lies within the Town of Loomis is designated as local responsibility area (LRA) and is not considered by Cal Fire to be a very high fire hazard severity zone. Unincorporated areas in the east and northwestern tip of the District are classified as SRA and considered to be moderate fire hazard severity zones. Cal Fire also provides technical support throughout the County in the form of specialized services such as fire suppression hand crews, dozers, and helicopter services when necessary.

Figure V-3 South Placer FPD – Fire Hazard Severity Zones



FOSTER MORRISON CONSULTING

COUNTY OF Placer

Data Source: Cal-Fire (Draft 09/2007 - c31fhszl06_1, Adopted 11/2007 - fhszs06_3_31, Recommended 12/2008 - c31fhszl06_3), Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Wildfires tend to be measured in structure damages, injuries, and loss of life as well as on acres burned. Fires can have a quick speed of onset, especially during periods of drought or during hot dry summer months. Fires can burn for a short period of time, or may have durations lasting for a week or more.

Past Occurrences

There has been five state and six federal disaster declarations for Placer County from fire. These can be seen in Table V-10.

Table V-10 Placer County – State and Federal Disaster Declarations Summary 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Fire	5	1961, 1965, 1973, 1987, 2010	6	2002, 2004, 2008, 2009, 2014 (twice)

Source: Cal OES, FEMA

The South Placer Fire Protection District provided past occurrences of fire that the District has responded to from 1985 to 2015. There were 1,485 fires that caused $48,375,358 in total losses. Many of these fires were house, car, or building fires. However, 601 of these fires were in grass, brush, forest, or natural vegetation fires. Damages from these specific fires was unavailable.

There have been no significant fires of this type in our jurisdiction over the last 5 years. To date our largest fire has been approximately 5 acres… most are 1 acre or less.

Vulnerability to and Impacts from Wildfire

Risk and vulnerability to the Placer County Planning Area and the District from wildfire is of significant concern, with some areas of the Planning Area being at greater risk than others as described further in this section. High fuel loads in the Planning Area, combined with a large built environment and population, create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with natural weather conditions common to the area, including periods of drought, high temperatures, low relative humidity, and periodic winds, can result in frequent and potentially catastrophic fires. During the nearly year around fire season, the dry vegetation and hot and sometimes windy weather results in an increase in the number of ignitions. Any fire, once ignited, has the potential to quickly become a large, out-of-control fire. As development continues throughout the County and the District, especially in these interface areas, the risk and vulnerability to wildfires will likely increase.

Potential impacts from wildfire include loss of life and injuries; damage to structures and other improvements, natural and cultural resources, croplands, and loss of recreational opportunities. Wildfires can cause short-term and long-term disruption to the District. Fires can have devastating effects on watersheds through loss of vegetation and soil erosion, which may impact the District by changing runoff patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading water quality. Fires can also affect air quality in the District; smoke and air pollution from wildfires can be a severe health hazard.

Although the physical damages and casualties arising from large fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in a loss of function of buildings and infrastructure. Economic impacts of loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Schools and businesses can be forced to close for extended periods of time. Recently, the threat of wildfire, combined with the potential for high winds, heat, and low humidity, has caused PG&E to initiate PSPSs which can also significantly impact a community through loss of services, business closures, and other impacts associated with loss of power for an extended period. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section above, as well as in Section 4.3.2 of the Base Plan. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.

The District boundaries contain agricultural land. From time to time, fire threatens agricultural areas. According to data provided by the HMPC, there have been four incidents in the District where fire has threatened cultivated vegetation or trees. Damages from these fires was unavailable.

Assets at Risk

Station 20 is at direct risk from this hazard.

V.6 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation education, outreach, and partnerships, and other mitigation efforts.

V.6.1. Regulatory Mitigation Capabilities

Table V-11 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the South Placer FPD.

Table V-11 South Placer FPD Regulatory Mitigation Capabilities

Plans	Y/N Year	Does the plan/program address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan/General Plan	N	Not Applicable to this Fire District
Capital Improvements Plan	Y	The District conducts capital improvement planning through multiple plans, including the apparatus replacement plan, capital facilities plan, long-term facility maintenance plan, and major equipment plan. The purpose of all capital improvements is the reduction of fire risk in the borders of the South Placer FPD.
Economic Development Plan	N	Not applicable to this Fire District

Local Emergency Operations Plan	N	Partnership with the Town of Loomis to address local hazards, identify projects and implement mitigation strategies. This plan is a guide, and any mitigation actions are identified at the time it is adopted.
Continuity of Operations Plan	N	Not applicable this Fire District
Transportation Plan	N	Not applicable this Fire District
Stormwater Management Plan/Program	N	Not applicable this Fire District
Engineering Studies for Streams	N	Not applicable this Fire District
Community Wildfire Protection Plan	Y	Currently done through Firewise Communities and Fire Safe Councils for individual neighborhoods within the District. These programs identify hazards and are used to create and implement mitigation measures.
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	N	Not applicable this Fire District
Building Code, Permitting, and Inspections	**Y/N**	**Are codes adequately enforced?**
Building Code	Y	Version/Year: 2019 CBC and 2013 CFC
Building Code Effectiveness Grading Schedule (BCEGS) Score	N	Score: 1-3
Fire department ISO rating:	Y	Rating: 3/3Y
Site plan review requirements	Y	Board adopted standards.
Land Use Planning and Ordinances	**Y/N**	**Is the ordinance an effective measure for reducing hazard impacts? Is the ordinance adequately administered and enforced?**
Zoning ordinance	Y	Reduces hazard impacts by regulating where homes can be built. The ordinance is adequately administered and enforced.
Subdivision ordinance	Y	Reduces hazard impacts by regulating subdivision access and water supplies ensuring our District needs are met so we can respond to and effectively mitigate an emergency.
Floodplain ordinance	N	Not applicable this Fire District
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	N	Not applicable this Fire District
Flood insurance rate maps	N	Not applicable this Fire District
Elevation Certificates	N	Not applicable this Fire District
Acquisition of land for open space and public recreation uses	N	Not applicable this Fire District
Erosion or sediment control program	N	Not applicable this Fire District
Other	N	Not applicable this Fire District
How can these capabilities be expanded and improved to reduce risk?		
Creation of a Natura Hazard specific section within our local ordinance could help our agency identify and reduce the possible negative impacts associated with homes being built in high-risk wildfire areas. This can assist the District by reducing the number of homes in these areas as well as improving our ability to respond effectively to an emergency within a specific natural hazard zone.		

Source: South Placer FPD

The District signed a MOU with Placer County for the Hazardous Vegetation Abatement Ordinance to help mitigate the hazardous vegetation within our District.

V.6.2. Administrative/Technical Mitigation Capabilities

Table V-12 identifies the District department(s) responsible for activities related to mitigation and loss prevention in South Placer FPD. The five-member board of directors governs the District. Board members are elected by the general population residing within the district boundaries and serve for staggered four-year terms.

Table V-12 South Placer FPD's Administrative and Technical Mitigation Capabilities

Administration	Y/N	Describe capability Is coordination effective?
Planning Commission	Y	Work with the Granite Bay MAC. Placer County and the Town of Loomis to regulate and promote safe community developments. Coordination is effective between all agencies involved.
Mitigation Planning Committee	N	Not applicable this Fire District
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	N	Not applicable this Fire District
Mutual aid agreements	Y	Assistance from allied agencies that border our District is extremely helpful and effective. Our ability to assist neighboring agencies when the need arises is also very effective.
Other	N	
Staff	**Y/N FT/PT**	**Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?**
Chief Building Official	N	Not applicable this Fire District
Floodplain Administrator	N	Not applicable this Fire District
Emergency Manager	N	Not applicable this Fire District
Community Planner	N	Not applicable this Fire District
Civil Engineer	N	Not applicable this Fire District
GIS Coordinator	N	Not applicable this Fire District
Other	N	
Technical		
Warning systems/services (Reverse 911, outdoor warning signals)	N	Not applicable this Fire District
Hazard data and information	N	Not applicable this Fire District
Grant writing	Y	Effective in the past but could be improved. All grants for the District are written and applied for by a private 3rd party whom we pay to assist us with the application process.
Hazus analysis	N	Not applicable this Fire District
Other	N	

How can these capabilities be expanded and improved to reduce risk?
Since we are a Fire District most of the services listed above are adequately and effectively provided by the County. Our District has an excellent working relationship with the County and will continue to work hard to address concerns and work collaboratively on behalf of our citizens. Grant writing could be improved by our District by applying for more grants to obtain the funds to create, improve or enhance our ability to respond to emergencies within our protection area.

Source: South Placer FPD

The District reported that its actual response capability at an incident consisted of three engines, a truck, ambulance, a battalion chief, and all 14 personnel on duty at any given time. There is also an additional capability of Volunteer and or Intern Firefighters that respond off duty on a regular basis.

V.6.3. Fiscal Mitigation Capabilities

Table V-13 identifies financial tools or resources that the District could potentially use to help fund mitigation activities.

Table V-13 South Placer FPD's Fiscal Mitigation Capabilities

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	N	Not applicable this Fire District
Authority to levy taxes for specific purposes	Y	Fire District have levied special fire taxes on their communities to help fund staffing, equipment or facility needs. This method has been considered but not implement within our Fire District yet.
Fees for water, sewer, gas, or electric services	N	Not applicable this Fire District
Impact fees for new development	Y	Zone of benefit assessments to commercial occupancies that can generate high call volumes. This has been used in the past and continues to be used within the District to generate revenue for the operations side of our Fire District.
Storm water utility fee	N	Not applicable this Fire District
Incur debt through general obligation bonds and/or special tax bonds	N	Not applicable this Fire District
Incur debt through private activities	N	Not applicable this Fire District
Community Development Block Grant	N	Not applicable this Fire District
Other federal funding programs	Y	This has been used in the form or grants and could be used again in the future to fund mitigation efforts or increase staffing to effectively deal with mitigation activities.

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
State funding programs	Y	This has been used in the form or grants and could be used again in the future to fund mitigation efforts or increase staffing to effectively deal with mitigation activities
Other	N	
How can these capabilities be expanded and improved to reduce risk?		
Special Taxes, Zone of Influence fees, as well as Federal and Local grants are all tools to create funding for our Fire District which directly benefits acquisition of personnel, purchases of updated apparatus, and improvement to facilities all of which enhance our ability to respond to emergencies within our district in a safe, and competent manner while providing the highest level of service to those in need.		

Source: South Placer FPD

In FY 12-13, the District received $8,084,253 in revenue, including 66 percent from property taxes, eight percent from special tax, 14 percent from ambulance service charges, two percent from mitigation fees, three percent from OES reimbursements, one percent from cellular tower lease, four percent from proceeds from capital lease, and one percent from other sources. Interest income and fees also constituted a small percentage of the District's income (less than one percent).

The District is primarily funded by property tax, special tax and the District's ability to generate revenue by providing ambulance service and contracting for other services. Reportedly, the District's collection rate on ambulance services is about 42 percent.

Special tax was originally passed in 1980 and 1984 and is collected every year with no cost of living allowance at $70 per residence or $2 per acre of vacant land. The FY 21-22 tax role is anticipated at $700,995.80 for 10,014 parcels. Special tax is collected by the County, which charges one percent of collected amount.

V.6.4. Mitigation Education, Outreach, and Partnerships

Table V-14 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information.

Table V-14 South Placer FPD's Mitigation Education, Outreach, and Partnerships

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	Fire Safe Councils and Fire Wise Communities work on emergency preparedness and mitigation within their specific communities

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	Fire Prevention Trailer taken out to public events within the District. Fire Safety brochures are distributed to attendees.
Natural disaster or safety related school programs	N	
StormReady certification	N	
Firewise Communities certification	Y	Partnership with Firewise communities to help them obtain their certification and ongoing efforts within those communities to help in emergency preparedness and mitigation efforts.
Public-private partnership initiatives addressing disaster-related issues	N	
Other	N	
How can these capabilities be expanded and improved to reduce risk?		
The District does not have the revenue to employ a Public Education specialist, so it relies heavily on help from within the Community. Fire Safe Councils and Fire Wise Communities play a critical role in keeping communities safe and the District need to assist as many neighborhoods as possible in obtaining these certifications. The benefit to the District is immeasurable but immensely important as the best outcome from an emergency comes from the emergency never happening.		

Source: South Placer FPD

V.6.5. Other Mitigation Efforts

The District has many other completed or ongoing mitigation efforts that include the following:

South Placer FPD is a signatory of the Western Placer County Cooperative Fire Services Response Agreement along with the 12 other fire protection agencies in western Placer County, including Alta Fire Protection District, Cal Fire/Placer County Fire Department, Foresthill Fire Protection District, Newcastle Fire Protection District, Penryn Fire Protection District, Placer Hills Fire Protection District, City of Auburn Fire Department, City of Colfax Fire Department, City of Lincoln Fire Department, City of Rocklin Fire Department, and City of Roseville Fire Department. According to the agreement, the agencies provide automatic aid to each other and make use of the closest resource dispatching fire, rescue, and medical emergency response without regard to jurisdiction or statutory responsibility.

The District provides services to other communities in California under the California State Mutual Aid Plan. South Placer FPD also supports the statewide mutual aid system by staffing a State of California Office Of Emergency Services Engine. The District is a part of the Placer County strike team deployment plan. District administrators have served as local area coordinators, strike team leaders, strike team assistants participated on State organized management teams and have sent emergency equipment to incidents all over the State of California and surrounding states.

South Placer FPD has automatic aid agreements with Sacramento Metropolitan Fire Protection District, City of Rocklin, City of Roseville and City of Folsom Fire Departments.

The District has a good working relationship with American Medical Response (AMR), which is one of the ambulance service providers in Placer County. South Placer FPD has automatic and mutual aid agreements with AMR to provide ambulance in some of the AMR service areas within eight minutes of South Placer FPD travel time, while AMR provides backup as needed. South Placer FPD is a party to two ambulance automatic aid agreements, AMR and Penryn FPD. The District also signed a medical services mutual aid agreement with AMR and Newcastle FPD, according to which the closest provider responds to a request for medical transportation within a specific area in Newcastle FPD.

The District is a member of the California Fire Chiefs Association, Western Placer County Fire Chiefs Association, California State Firefighters Association, Fire Districts Association of California, and Fire Agencies Self Insurance System (FASIS). South Placer FPD participates in the Placer County Closest Resource Agreement, Placer County Emergency Operations Plan, and Region Four Mass Casualty Incident (MCI) Plan.

V.7 Mitigation Strategy

V.7.1. Mitigation Goals and Objectives

The South Placer FPD adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

V.7.2. Mitigation Actions

The planning team for the South Placer FPD identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. The following hazards were considered a priority for purposes of mitigation action planning:

- Climate Change
- Drought & Water Shortage
- Earthquake
- Floods: 1%/0.2% annual chance
- Floods: Localized Stormwater
- Levee Failure
- Severe Weather: Extreme Heat
- Severe Weather: Freeze and Snow
- Severe Weather: Heavy Rains and Storms
- Severe Weather: High Winds and Tornadoes
- Wildfire

After review of possible mitigation actions, the following were dropped from priority for mitigation planning:

- Levee Failure
- Freeze and Snow

It should be noted that many of the projects submitted by each jurisdiction in Table 5-4 in the Base Plan benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the countywide public outreach action, as well as many of the emergency services actions, apply to all hazards regardless of hazard priority. Collectively, this multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5-years covered by this plan. It should further be noted, that although a jurisdiction may not have specific projects identified for each priority hazard for the five year coverage of this planning process, each jurisdiction has focused on identifying those projects which are realistic and reasonable for them to implement and would like to preserve their hazard priorities should future projects be identified where the implementing jurisdiction has the future capacity to implement.

Multi-Hazard Actions

Action 1. Vegetation Management in Open Space Areas

Hazards Addressed: Climate Change, Drought and Water Shortage, Extreme Heat, High Winds and Tornadoes, Tree Mortality, Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The topography, climate (including extreme heat, drought and water shortage, and high winds and tornadoes), and vegetation throughout the South Placer Fire District is conducive to the spread of wildfires. High Risk areas contain extensive grasslands and oak woodlands in rolling terrain. Some of this vegetation is invasive species, which choke out native flora. In times of drought, it is the invasive species that tend to proliferate. These invasive species can also serve as ladder fuels during periods of wildfire.

Project Description: Partner with our neighbors at Placer County Code Enforcement to enforce State Law regarding defensible space to reduce the rapid spread of wildfire. Vegetation will be removed to protect grasslands and oak woodlands. This vegetation competes with trees and green plants.

Other Alternatives: No action

Existing Planning Mechanism(s) through which Action Will Be Implemented: Plan Review for new residences and subdivisions. Investigation of hazardous vegetation complaints. MOU w /Placer County for Hazardous Vegetation Abatement

Responsible Agency/Department/Partners: South Placer Fire District, Property Owners, Placer County Code Enforcement, CalFire

Cost Estimate: Unknown at this time.

Benefits (Losses Avoided): Reduce the risks associated with natural hazards in the area. Preservation of life and property.

Potential Funding: Grants

Timeline: Ongoing

Project Priority (H, M, L): High

Action 2. Shaded Fuel Break along west shore of Folsom Lake - Granite Bay

Hazards Addressed: Climate Change, Drought and Water Shortage, Earthquake, Flood Hazards, Levee Failure, Severe Weather Hazards, Tree Mortality, Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: The topography, climate, and vegetation throughout the South Placer Fire District is conducive to the spread of wildfires. High Risk areas contain extensive grasslands and oak woodlands in rolling terrain. This area has not been maintained for many years.

Project Description: Partner with our neighbors at CalFire, State Parks, and the Bureau of Reclamation to create a shaded fuel break along the lake and help protect the home that back up to this area.

Other Alternatives: No action

Existing Planning Mechanism(s) through which Action Will Be Implemented: Granite Bay Shaded Fuel Break Project, MOU w /Placer County for Hazardous Vegetation Abatement.

Responsible Agency/Department/Partners: South Placer Fire District, BOR, State Parks, CalFire

Cost Estimate: To be determined

Benefits (Losses Avoided): Reduce the risks associated with natural hazards in the area. Preservation of life and property.

Potential Funding: Grants

Timeline: Ongoing

Project Priority (H, M, L): High

Action 3. Backup Generator Installation for Fire Stations

Hazards Addressed: Climate Change, Drought and Water Shortage, Earthquake, Flooding (both 1%/0.2% and localized) Extreme Heat, Heavy Rains and Storms, High Winds and Tornadoes, Tree Mortality, Wildfire

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: Natural disasters (those listed in the hazard addressed above) and PSPS can potentially affect the availability of electricity to South Placer Fire District Stations that do not have power backup capabilities. Communication (to and from) as well as critical networking infrastructure for the fire district can be affected by power outages. PSPS events occur during periods of hot dry weather. PSPS events also occur predominantly during high wind and drought conditions. It is during these times that the District is especially in need of backup power.

Project Description: Add Emergency Backup Generators to South Placer Fire District Stations 15,16 and 17.

Other Alternatives: No action

Existing Planning Mechanism(s) through which Action Will Be Implemented: Apply for grants to fund the addition of backup generators. Fundraising projects.

Responsible Agency/Department/Partners: South Placer Fire District, Placer County

Cost Estimate: $50,000

Benefits (Losses Avoided): Ensures that communications and networking infrastructure is always available regardless of the status of the electric grid. Reduce the risks associated with natural hazards in the area. Preservation of life and property.

Potential Funding: Grants

Timeline: Ongoing

Project Priority (H, M, L): High